HEMANTH REDDY ALLUGUNTI

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EDUCATION

SRM Institute of Science and Technology — Chennai, India
Bachelor of Technology in Artificial Intelligence — *Sep. 2021 – May 2025*

EXPERIENCE

Work Experience — February 2025-March 2025
Freelance Machine Learning Engineer — *Remote*

- Developed an AI-powered storybook generator using ComfyUI, leveraging Stable Diffusion models such as JuggernautXL for high-quality image synthesis.
- Implemented identity-preserving face swaps using IPAdapter and InstaID, including building a custom IPAdapter tailored to project requirements and the chosen diffusion model.
- Ran the application on Google Colab with T4 GPU for cost-effective, GPU-accelerated inference.

Research Experience — February 2025
Undergraduate Researcher — *SRMIST, KTR*

- Presented the paper "Towards Emotionally Intelligent AI: Enhancing User Experience with Biometric-Driven Adaptive Responses" at NCICIS 2025; currently under publication.
- Developed a real-time AI agent that uses biometric data (heart rate, facial expressions) to dynamically adjust conversational tone via Groq API and Google Fit, enhancing user experience.

PROJECTS

Project Matthew – Emotionally Intelligent ConvAI | *Groq API, Google Fit, Twilio, Python* — Aug24 - Apr25

- Engineered an AI system that adapts conversational tone in real time using heart rate data from Google Fit; leveraged Groq API for low-latency, context-aware response generation.
- Integrated secure email/password authentication and Twilio SMS alerts to notify emergency contacts when heart rate exceeds critical thresholds.
- Developed an independent facial expression analysis module to classify user emotions (happy, sad, neutral) and provide visual emotional feedback.

TalentScout Hiring Assistant | *Streamlit, Python, Firebase, Gemini AI* — February 2025

- Built an AI-powered hiring assistant with automated candidate evaluation, structured interviews, and real-time scoring.
- Integrated Gemini AI for intelligent assessment and secure data storage using Firebase.
- Provided candidates with real-time feedback, assessment results, and data management options.

RetailVisionAI | *PyTorch, Flask, Microservices, YOLO* — November 2024

- Developed an AI-driven pipeline for product detection in retail images using Flask and PyTorch.
- Implemented YOLO for real-time object detection, enhancing accuracy and processing speed.
- Designed microservices to process images and return structured JSON responses for product grouping.

Biometric Face Recognition System | *Python, OpenCV, NumPy, TensorFlow* — February 2024

- Built a biometric face recognition system using CNNs for image classification.
- Integrated face registration, model training, and recognition with OpenCV, logging recognized users and announcing names via text-to-speech (TTS).

TECHNICAL SKILLS

Programming Languages: Python, PostgreSQL
Machine Learning and AI: TensorFlow, PyTorch, Scikit-learn
Natural Language Processing (NLP): Rasa, LangChain, Hugging Face
Computer Vision: OpenCV, YOLO, Scikit-Image
Other Tools: Streamlit